



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,300	09/20/2005	Takashi Ishidoshiro	MES1P093	1897

22434 7590 04/24/2008  
BEYER WEAVER LLP  
P.O. BOX 70250  
OAKLAND, CA 94612-0250

EXAMINER
----------

KHAN, MEHMOOD B

ART UNIT	PAPER NUMBER
----------	--------------

2617

MAIL DATE	DELIVERY MODE
-----------	---------------

04/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/550,300	<b>Applicant(s)</b> ISHIDOSHIRO, TAKASHI	
	<b>Examiner</b> MEHMOOD B. KHAN	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03/11/2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallstedt et al. (US 5,903,834 herein Wallstedt) in view of Dent (US 5,832,389).

Claim 1, Wallstedt discloses an access point (**see Fig. 2: 3a**) comprising: an antenna unit that receives a radio frequency signal used for exchanging information via the wireless local area network, wherein the antenna unit comprises a sending antenna that sends the radio frequency signal (**see Fig. 3: 6 and 7, where Wallstedt discloses antennae for sending and receiving**); Wallstedt discloses a signal conversion unit that performs conversion between the radio frequency signal and a digital signal as the information (**see, Col 5: 11-21, Fig. 3**); Wallstedt discloses an information processing unit that executes processing of the digital signal based on a communication protocol for exchanging of the information (**see Col 6: 21-25, 45-49, where Wallstedt discloses a hub with radio protocol**); Wallstedt discloses an antenna case that contains the antenna unit and the signal conversion unit (**see Fig. 3: box containing el. 8-15**); Wallstedt discloses a main unit case that, separated from the antenna

case, contains the information processing unit (see Fig. 2: 2, where Wallstedt discloses a hub); Wallstedt discloses a receiving synthesis unit (Col 6: 50-54, Fig. 5: 24, where Wallstedt discloses a signal processing unit), Wallstedt discloses a wired cable that, connecting the antenna case and the main unit case, performs transmission the digital signal between the signal conversion unit and the information processing unit (see Col 6: 5-7, Fig. 3: 4, where Wallstedt discloses a wire capable of sending data between the hub and RAD). Wallstedt discloses wherein the receiving synthesis unit is connected to the receive antenna by the wired cable and performs diversity receiving with respect to the received radio frequency signals (Col 6: 50-60, where Wallstedt discloses diversity combining).

Wallstedt does not disclose a plurality of receiving antennas that is installed around the sending antenna and receives the radio frequency signal.

In an analogous art, Dent discloses a plurality of receiving antennas that is installed around the sending antenna and receives the radio frequency signal (Fig. 5A, where Dent shows that it is well known to have a plurality of receive antenna). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wallstedt to include multiple receive antennas as taught by Dent so as to allow for space diversity reception (Col 3: 3-4).

Claim 3, Wallstedt discloses wherein the transmission of the digital signal by the wired cable is either one of serial transmission (see Col 6: 4-5, where Wallstedt discloses serial transmission).

Claim 4, Wallstedt discloses wherein the wired cable, in addition to transmission of the digital signal, performs transmission of a control signal (**see Col 6: 4-5, where Wallstedt discloses control and overhead information**).

Claim 5, Wallstedt discloses wherein the wired cable is coaxial cable (**see Col 6: 8-9, where Wallstedt discloses it is well known to use Coaxial cables**).

Claim 6, as analyzed with respect to the limitations as discussed in claim 1.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallstedt et al. (US 5,903,834 herein Wallstedt) in view of Dent (US 5,832,389) in view of Ogawa (US 2003/0185287).

Claim 2, Wallstedt discloses wherein the signal conversion unit comprises: a frequency conversion unit that performs conversion between the radio frequency signal and an intermediate frequency signal having lower frequency than the radio frequency signal (**see Col 5: 11-15, where Wallstedt discloses conversion to IF from RF**);

Wallstedt in view of Dent does not disclose a modem unit that performs modulation and/or demodulation between the intermediate frequency signal and a base band signal; and a base band unit that performs conversion between the base band signal and the digital signal.

In an analogous art, Ogawa discloses a modem unit that performs modulation and/or demodulation between the intermediate frequency signal and a base band signal; and a base band unit that performs conversion between the base band signal and the digital signal (**see Fig. 1 and 2: 14, where Ogawa discloses conversion of an IF signal to a baseband signal**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wallstedt in view of Dent to include conversion between IF and base band with the teachings of Ogawa so as to provide for high efficiency (**see 0009**).

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEHMOOD B. KHAN whose telephone number is (571)272-9277. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or

Application/Control Number:  
10/550,300  
Art Unit: 2617

Page 6

Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mehmood B. Khan/  
Examiner, Art Unit 2617

/Lester Kincaid/  
Supervisory Patent Examiner, Art Unit 2617